

**MASHANTUCKET PEQUOT TRIBAL NATION
Department of Planning & Community Development**

and

**MASHANTUCKET PEQUOT GAMING ENTERPRISE
Engineering Department**

**STANDARD PROCEDURES FOR THE PREPARATION OF
PRELIMINARY & DESIGN DRAWINGS
AND
SUBMISSION OF RECORD DRAWINGS**

August 16, 2006

Revision 1 (Effective 11-10-06)

INTRODUCTION

REFERENCES

- A. U.S. National CAD Standard Version 3.1

INTRODUCTION

1. Description

- A. This document has been created to define the procedures for the following processes and document production. Questions should be directed to the relevant departments listed in Paragraphs 2 below.

1. Section 1 Field Surveys
2. Section 2 Preliminary, Design and As-Built (Record) drawings for Site work and areas outside the buildings
3. Section 3 Construction Design and As-Built (Record) drawings for Buildings and Interiors
4. Annex A Buildings and Interiors – Layer Major Groups list
5. Annex B Buildings and Interiors – Gaming Layers list

2. General Information

- A. The responsibility for maintenance of the CAD models of Foxwoods Resort Casino, other buildings and the Reservation is shared by two departments. Each department has their own standard for the format of CAD Record drawings.

1. Surveys, Civil Site and utilities (Sections 1 and 2).
2. Building, interiors and exteriors and all associated internal systems (Section 3 and Annexes A and B).

- B. Questions regarding the standards for the Surveys, Civil site, utilities etc. should be addressed to:

Mashantucket Pequot Tribe Planning Dept.,

Telephone: 860 312-2505

- C. Questions regarding the standards for the buildings, interiors etc. should be addressed to:

Foxwoods Engineering Dept.,
RT. 2, P. O. Box 3777
Mashantucket, CT 06339-3777

Telephone:

860-312-3530

SECTION 1

FIELD SURVEYS

1. Field Survey Requirements

- A. Horizontal surveys shall comply with the minimum standards for an A-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT adopted 9/26/96, unless otherwise directed by the Mashantucket Pequot Tribal Nation.
- B. Vertical surveys shall comply with the minimum standards for a V-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT adopted 9/26/96, unless otherwise directed by the Mashantucket Pequot Tribal Nation. Vertical Surveys shall be based upon NGVD 29, unless otherwise directed by the Mashantucket Tribal Nation.
- C. Topographic surveys shall comply with the minimum standards for a T-2 survey as stated in the MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT, adopted 9/26/96, unless otherwise directed by the Mashantucket Pequot Tribal Nation.

2. Field Survey Classes of Accuracy Sec. 20-300b-11

- A. All surveys prepared in metric format shall use 1 meter = 3.28083333 U.S. Survey feet.
- B. Horizontal Accuracy.
 - 1. Each survey depicting horizontal locations shall conform to a Horizontal Accuracy Class the tolerance of which is defined as follows:

Class	Positional	Linear		(Use ratio for D>...)	Angular
		Feet	Meters		
AA	1: 15,000	± 001'	± .003m	[1:22,500@D>225'(69m)]	± 8
A-1	1: 10,000	± 0.01'	± .003m	[1:15,000@D>150'(46m)]	± 10
A-2	1: 5,000	± 0.02'	± .006m	[1:7,500@D>150'(46m)]	± 20
B	1: 1,000	± 0.5'	± .15m	[1:1,500@D>750'(229m)]	± 2'
C	± 2'	± 2'	± .6m		± 30'
D	compilation of existing data-NOT A FIELD SURVEY				

- 2. Linear accuracy's expressed as ± apply to distances less than (<) those prescribed as a ratio.

C. Vertical Accuracy.

1. Each survey depicting vertical location shall conform to a Vertical Accuracy Class the tolerance of which is defined as follows:

Class	Level Loop Closure Greater Than One Mile		Level Loop Closure Less Less Than Mile	
	Feet	Meters	Feet	Meters
V-1	$\pm .02\sqrt{M}$	$\pm .005\sqrt{K}$	$\pm .006\sqrt{N}$	$\pm .002\sqrt{N}$
V-2	$\pm .035\sqrt{M}$	$\pm .008\sqrt{K}$	$\pm .010\sqrt{N}$	$\pm .003\sqrt{N}$
V-3	$\pm .05\sqrt{M}$	$\pm .012\sqrt{K}$	$\pm .020\sqrt{N}$	$\pm .006\sqrt{N}$
M or K = The length of the level loop in miles/kilometer				
N = The number of instrument setups in the level loop				

3. Topographical Survey.

- A. Each Topographic Survey shall conform to a Topographic Accuracy Class the tolerance of which is defined as follows:

Class	Horizontal Position		Contour Interval Test
	Feet	Meters	
T-1	1/40 of map scale	1/1500 of map scale	90% within $\frac{1}{2}$ contour interval
T-2	1/40 of map scale	1/1500 of map scale	80% within $\frac{1}{2}$ contour interval

- B. Classes T-1 and T-2 are to be used for ground survey procedures.
- C. Class T3 applies to photogrammetric maps for which the surveyor provides the horizontal and vertical control. Refer to the National Map Standards for Photogrammetric Mapping for requirements.
- D. Class T-D applies to a topographic map compiled from various sources of information not necessarily verified by the surveyor.
- E. In using Topographic Accuracy Class T-1 or T-2, the surveyor is expressing confidence that should a test profile be run in the field, a plotted comparison with a profile scaled from the map shall be in agreement within the above criteria and the remainder shall be within the contour interval.

SECTION 2

PRELIMINARY, DESIGN AND AS-BUILT (RECORD) DRAWINGS FOR SITE WORK AND AREAS OUTSIDE THE BUILDINGS.

1. Data Processing

A. Information in drawings and on maps and plans shall include, but not be limited to:

1. Site Work:

- i. Utility locations - water with pipe size & material, sewer with pipe size & material, light poles, utility poles, manholes, handholds, valves, vaults, hydrants, and catch basins with type.
- ii. Drainage including pipe sizes, invert elevations, top of frame elevations, flow arrows, flared ends with inverts, headwalls with inverts, culverts with inverts, pipe size and type.
- iii. Site related building locations shall include, top of foundation, column lines, and stairs/ entrances, and other features as directed by the Mashantucket Pequot Tribal Nation.
- iv. Gutter line, top of curb, type of curb, centerline, sidewalks, parking lots (with striping), islands, signs, guard rails, and significant trees/shrubs (12 Diameter).
- v. Traverse points with coordinates and descriptions, and bench marks with elevations and descriptions.
- vi. 2 foot contours (minimum)
- vii. Elevations for underground utilities shall be shown for all valves, hydrants, vaults, manholes, laterals and grade changes. For long segments of constant grade, elevations should be shown a minimum of every 100 feet.
- viii. All ASCII points or hard shots shall be included in the drawing, asbuilts shall be survey grade (refer to section1 field surveys), red lined drawings will not be accepted as Asbuilts or Record Drawings. (Rev. 1)
- ix. Coordinates and datum elevations shall be based on NAD 83.

2. All information to conform to the standards contained in this document.

3. Construction:

- i. Utility locations – all mechanical and electrical including fire protection, security and surveillance.
- ii. Architectural components.
- iii. Structural components.
- iv. Footings and foundations.
- v. All information to conform to the standards contained in this document.

2. Submission of Preliminary and Design Drawings

- ##### **A. Preliminary and design drawings are the responsibility of the contractor/engineer or architect to provide. These drawings will be plotted by the Planning Department on an emergency basis only. In an emergency, the contractor/engineer/architect shall include a plot style table for pen setups. This is the only time drawings can be submitted to the Tribe without following Tribal Standards. These early submissions shall not be a common occurrence; files should only be submitted for plotting under emergency circumstances. The contractor shall follow normal procedures for submitting plans and electronic drawings otherwise.**

3. Record Drawing Digital Format Procedures

Record drawings received in digital format shall adhere to the following standards.

- A. All layering shall conform to Paragraph 5. Layers or Items used that are not listed in our standard, can be created using our standard layers as a guide. Items not included in final product because no layer was listed is unacceptable.
- B. Drawing files shall not be rotated or translated so that the drawing coordinates differ from the field coordinates.
- C. When practical, all lines shall be drafted as continuous polylines.
- D. Drawings submitted shall abide by Connecticut State Statutes for As-Built.

4. Externally Referenced Drawings

- A. Any External references (Xrefs) shall stay in original drawings, but a copy of each one shall be on submitted on the CD in a directory called Xrefs.
This is to insure no information is lost during merging of files. Contractor shall also provide list of Xrefs for drawings with descriptions of referenced data.

5. Standard Layers and File Names Required for AutoCAD Drawings

- A. The following pages are the standard layers required when submitting CAD drawings of site work and As-Built surveys. If needed, the Vendor may create a custom layer if there is not one already created for the item. When creating custom layers, the Vendor shall follow the format of standard layers.
- B. If the vendor has added information to a base drawing received from the Tribe, the process for standard layers shall be to add the prefix 'asb' to the layers. The addition of the prefix 'asb' to the layer will assist in determining what work was done by the vendor for the CAD files.
- C. Upon request, the Planning Department shall give the vendor a diskette with CAD script files. These script files contain all the layers listed below, and can be dragged or dropped into a CAD drawing which will load the required layers instantly. Requests for this information should be directed to the Project Manager.

6. Standard layers for exterior of building, site work etc.

LAYER NAME	COLOR	DESCRIPTION
0	7	AutoCAD standard layer
BOUNDARIES		
Asc_boundary	130	Field shots
Boundary	130	Boundary Lines
Boundary_easement	130	Easements
Boundary_misc	2	Pins, Drill Holes, Monuments, etc

Boundary_project	130	Project Boundaries
Boundary_settlement	192	Settlement Boundary
Boundary_text	2	Boundary Text
Boundary_townlines	210	Town lines
LAYER NAME	COLOR	DESCRIPTION
Boundary_row	130	Right of Ways
Boundary_zoning	12	Zoning
BUILDINGS		
Asc_bldg	6	Field shots
Bldg	6	Buildings
Bldg_asbuilted	6	As-Built Buildings
Bldg_column	253	Column Lines
Bldg_h2otank	6	Water tank
Bldg_misc	2	Misc. items
Bldg_text	2	Text
Bldg_trailer	6	Trailers
DETAILS		
Detail	7	Detail lines
Detail_hatch	254	Hatching for details
Detail_text	20	Text for details
DIMENSIONING		
Dim_lines	20	Arrows, lines, etc.(no leaders)
Dim_text	20	Dimension text
LANDSCAPING		
Plani_brushl	110	Brush
Plani_groundcover	2	Ground covers
Plani_landscaping	2	Landscaping beds
Plani_tree	110	Single trees
Plani_treel	110	Treeline
Plani_vegetation	110	Vegetation
PLANIMETRICS		
Asc_plani	2	Various shots
Asc_tree	2	Field shots of trees
Plani_arch_limit	200	Archaeological limits
Plani_Ballfield	2	Ballfield
Plani_benches	2	Benches
Plani_borings	2	Test pits, borings
Plani_bridge	4	Bridges
Plani_bulkhead	2	Bulkheads for buildings
Plani_cl	95	Centerline of road
Plani_cl_station	2	Centerline of road stationing
Plani_conc	253	Concrete slabs, footings etc.
Plani_conc_ab	253	Concrete slabs, footings etc. ,As-Built
Plani_courts	2	Tennis, basketball courts
Plani_curb	11	Curbing
Plani_deck	2	Decks
Plani_digi_roads	11	Digitized Roads
Plani_dpark	34	Gravel Parking

Plani_drive	21	Driveways
Plani_droad	34	Gravel Roads
Plani_erosion	2	Erosion control
Plani_fence	2	Fences
LAYER NAME	COLOR	DESCRIPTION
Plani_fpole	2	Flagpoles
Plani_grail	12	Guard Rails
Plani_hatch	2	Hatching
Plani_misc	2	Misc, signs, benches, etc.
Plani_mbox	2	mail boxes
Plani_monorail footing	2	Monorail Footings
Plani_pavemarking	211	Pavement markings
Plani_parking	11	Paved parking
Plani_Playground	2	Playgrounds
Plani_pool	2	Pools & spas
Plani_post	2	Posts
Plani_ramp	2	Ramps
Plani_retwall	4	Retaining walls
Plani_retwall footing	2	Retaining wall footings
Plani_road	11	Roads
Plani_roads_As-Builts	11	Road As-Builts
Plani_rocks	2	Rocks
Plani_sidewalk	31	Sidewalks
Plani_steps	2	Steps
Plani_stwall	65	Stone walls
Plani_text	2	Text
Plani_trail	51	Trails
PROPOSED		
Proposed	1	Proposed features/objects
Proposed_grading	1	Proposed Grading
Proposed_notes	1	Proposed Notes
Proposed_text	1	Proposed Text (leaders)
Proposed_utilities	1	Proposed utilities
SURVEY		
Asc_survey	230	Boundary, etc
Asc_survey_ctrl	230	Control
Asc_survey_stakeout	230	Stakeout
Survey_control	230	Control
Survey_info	2	Survey info, bearings, distances
Survey_misc	2	Pins, Drill Holes, Monuments, etc
Survey_notes	40	Notes for map
TITLE		
Title	153	Title and text
Title_misc	153	Legends, notes, etc.
Title_nscale	153	North arrow and scale
TOPOGRAPHY		
Topo_Cont_hgh	22	Index Contours
Topo_Cont_hgh_field	22	Field generated Contours

Topo_Cont_nml	252	Intermediate Contours
Topo_Cont_nml_field	252	Field generated Contours
Topo_Cont_text	2	Contour Text
Topo_spot_elev	2	Spot elevations
LAYER NAME	COLOR	DESCRIPTION
UTILITIES		
Communications		
Asc_com	30	Field shots of com.
Asc_com_spare	30	Spare conduit
asc_conduit_rte2	30	Rte 2 Conduit
u_com_abandoned	30	Abandoned in place lines
U_com_cable	30	Cable
U_com_cable_tv	30	Cable TV
U_com_camera_ab	30	Surveillance cameras
U_com_fiber_optic	30	Fiber Optic Lines
U_com_fire_alarm	30	Fire Alarm lines
U_com_hh	30	Communication hand hole
U_com_line	30	Communication line
U_com_mh	30	Communication manhole
U_com_security	30	Security Lines
U_com_structure	30	Structures
U_com_telephone	30	Telephone lines, etc
U_com_text	30	Communication text
Electric		
asc_elec	10	Field shots of electric
U_elec_abandoned	10	Abandoned in Place lines
U_elec_box	10	Electric box
U_elec_com_combined	10	Electric and Communication Combined
U_elec_ductbank	10	Ductbank
U_elec_gen_ducts	10	Ducts for generator
U_elec_gen_pads	10	Pads for generator
U_elec_hh	10	Electric hand hole
U_elec_light_exterior	10	Exterior Lighting (not Lightpoles)
U_elec_line	10	Electric lines
U_elec_line_approx	10	Approximate location of electric lines
U_elec_line_overhead	10	Overhead electric Lines
U_elec_loop_ab	10	Loops for guard shacks
U_elec_lp	10	Light poles
U_elec_meter	10	Electric meter
U_elec_mh	10	Electric manhole
U_elec_misc	10	Misc. lighting
U_elec_pole	10	Electric poles
U_elec_removed	10	Electric lines removed
U_elec_sleeve	10	Electric Sleeves
U_elec_structure	10	structures
U_elec_text	10	Electric text
U_elec_vault	10	Electric Vault
Gas		

asc_gas	50	Field shots of gas
u_gas_.5in	50	½ inch gas line
U_gas_.75in	50	¾ inch gas line
U_gas_1.25in	50	1.25 inch gas line
LAYER NAME	COLOR	DESCRIPTION
U_gas_1.5in	50	1.5 inch gas line
U_gas_10in	50	10 inch gas line
U_gas_12in	50	12 inch gas line
U_gas_1in	50	1 inch gas line
U_gas_2in	50	2 inch gas line
U_gas_3in	50	3 inch gas line
U_gas_4in	50	4 inch gas line
U_gas_5in	50	5 inch gas line
U_gas_6in	50	6 inch gas line
U_gas_8in	50	8 inch gas line
U_gas_off	50	Gas lines abandoned
U_gas_structure	50	structures
U_gas_text	50	Gas text
U_gas_valve	50	Gas valves
Sanitary		
asc_sanit	80	Field shots of sanitary
asc_sanit_approx	80	Field shots of sanitary (approx)
U_san_2in	80	2 inch Sanitary
U_san_3in	80	3 inch Sanitary
U_san_4in	80	4 inch Sanitary
U_san_6in	80	6 inch Sanitary
U_san_8in	80	8 inch Sanitary
U_san_10in	80	10 inch Sanitary
U_san_12in	80	12 inch Sanitary
U_san_14in	80	14 inch Sanitary
U_san_15in	80	15 inch Sanitary
U_san_16in	80	16 inch Sanitary
U_san_18in	80	18 inch Sanitary
U_san_20in	80	20 inch Sanitary
U_san_24in	80	24 inch Sanitary
U_san_30in	80	30 inch Sanitary
U_sanitary_approx	80	Sanitary approximate
U_san_fm	80	Force Main
U_san_fm_1.25	80	1.25in Force Main
U_san_fm_2.5in	80	2.5in Force Main
U_san_fm_1in	80	1in Force Main
U_san_fm_2in	80	2in Force Main
U_san_fm_3in	80	3in Force Main
U_san_fm_4in	80	4in Force Main
U_san_fm_6in	80	6in Force Main
U_san_fm_8in	80	8in Force Main
U_sanitary_grease	80	Sanitary grease traps
U_sanitary_mh	80	Sanitary manholes

U_san_pipe_text	80	Sanitary Pipe Text Size
U_sanitary_pumps	80	Pump stations, grinders
U_sanitary_septic_field	80	Septic fields
U_sanitary_structure	80	structures
LAYER NAME	COLOR	DESCRIPTION
U_sanitary_text	80	Sanitary text
Storm		
asc_storm	80	Field shots of storm
U_storm_2in	80	2 in Storm water
U_storm_3in	80	3 in Storm water
U_storm_4in	80	4 in Storm water
U_storm_6in	80	6 in Storm water
U_storm_8in	80	8 in Storm water
U_storm_12in	80	12 in Storm water
U_storm_15in	80	15 in Storm water
U_storm_21in	80	21 in Storm water
U_storm_24in	80	24 in Storm water
U_storm_30in	80	30 in Storm water
U_storm_36in	80	36 in Storm water
U_storm_42in	80	42 in Storm water
U_storm_48in	80	48 in Storm water
U_storm_54in	80	54 in Storm water
U_storm_cb	80	Catch basins
U_storm_culvert	80	Culverts
U_storm_footdrains	81	Footing drains
U_storm_mh	80	Drainage manholes
U_storm_roofdrains_4in	80	4 in Roof Drains
U_storm_roofdrains_6in	80	6 in Roof Drains
U_storm_roofdrains_8in	80	8 in Roof Drains
U_storm_roofdrains_10in	80	10 in Roof Drains
U_storm_roofdrains_12in	80	12 in Roof Drains
U_storm_oil_h2o_sedchamber	80	Sedchambers
U_storm_riprap	80	Rip rap
U_storm_structure	80	structures
U_storm_text	80	Storm water text
Water		
asc_water	160	Field shots of water
U_water_firehyd	160	Fire hydrant
U_water_h2otank	160	Water tank
U_water_irrigation	160	Irrigation
U_water_.5in	160	½ in Water lines
U_water_.75in	160	¾ in Water lines
U_water_1in	160	1 in Water lines
U_water_2in	160	2 in Water lines
U_water_3in	160	3 in Water lines
U_water_4in	160	4 in Water lines
U_water_6in	160	6 in Water lines
U_water_8in	160	8 in Water lines

U_water_10in	160	10 in Water lines
U_water_12in	160	12 in Water lines
U_water_16in	160	16 in Water lines
U_water_20in	160	20 in Water lines
LAYER NAME	COLOR	DESCRIPTION
U_water_structure	160	structures
U_water_text	160	Water text
U_water_valve	160	Water valves
U_water_wells	160	Water wells
Wetlands		
Asc_wet	140	Field shots of wetlands
Wetland_buffer	200	Wetland buffer
Wetland_field	140	Field located wetlands
Wetland_fill	143	Filled wetland
Wetland_statebd	140	State boundary
Wetland_streams	142	Streams
Wetland_sym	2	Hatching
Wetland_text	2	Flags, text, etc.
Wetland_waterbodies	5	Lakes, ponds, etc

7. Submittal of Record Drawings

A. The procedure for submittal shall be:

1. Hard Copies of Construction as-built or Field Survey completed drawings.
2. Electronic Files, on CD-ROM. Files shall be AutoCAD Release 2000 or newer.
3. Electronic Files shall conform to the specifications listed herein.
4. Red Lined drawings will not be accepted as Asbuilts or Record Drawings (Rev. 1)

B. Once Record Drawings are complete, the Project Manager shall review hard copies or electronic files to confirm information. When this is complete the Project Manager shall give the Vendor's information to the MPTN Planning Department.

8. Refusal of Record Drawings

A. Drawings & Electronic Files that do not follow the standards listed herein may be refused until they conform to standards.

9. Survey Control

A. The Mashantucket Pequot Tribal Nation Planning Dept. has its own Survey Control and will provide this information to vendor upon reward of contract.

10. Revisions

A. Submitted drawings shall contain a revision date and brief description of the revision on each revised sheet.

- B. Revisions shall be clearly identified using a revision cloud and revision number. In addition, the cover sheet shall show the latest applicable revision date.

SECTION 3

CONSTRUCTION DESIGN AND AS-BUILT (RECORD) DRAWINGS FOR BUILDINGS AND INTERIORS

1. Standard Layers

- A. Layer names are created in accordance with the AIA CAD Layer Guidelines contained in the Reference A. Annex A lists the Major Layer Groups that are to be used to create Record Drawings.
- B. If required, contractors may create custom layers provided they conform to the AIA CAD Layer Guidelines and that Major Groups are taken from the list in Annex A.
- C. All contractor created layers are to be identified by adding the initials of the company name as a suffix to the layer name. If the contractor identifies a need to add a Major Group definition, then they should contact Foxwoods Engineering at the address listed at the beginning of this document.
- D. These requirements will aid Foxwoods Engineering staff in distinguishing standard layers from custom layers and maintaining this document.
- E. Annex B lists the layers that have been created for gaming information. A drawing file containing all currently used layers, dim styles and text styles is available upon request or by downloading from the Mashantucket Pequot Tribal Nation (MPTN) Procurement (www.mptnprocurement.com) web site.

2. File Naming And Sheet Numbering

- A. Sheet file guidelines have been developed by the Uniform Drawing System (UDS) Task team of the Construction Specifications Institute (CSI). The following tables are provided for guidance only.
- B. Discipline Codes.
 1. Discipline codes, including but not limited to the following, are used for sheet and model identification and for layer names.

A	Architectural	
	AE	Architectural Elements
	AF	Architectural Finishes
	AI	Architectural Interiors
C	Civil	
E	Electrical	
	EL	Electrical Lighting
	EP	Electrical Power
	EQ	Electrical Equipment
F	Fire Protection	
G	General	
H	Hazardous Material	
I	Interiors	
L	Landscape	
M	Mechanical	

	MH	Mechanical HVAC
	MP	Mechanical Piping
P	Plumbing	
Q	Equipment	
R	Resource	
S	Structural	
T	Telecommunications	
X	Other Disciplines	
Z	Contractor/Shop Drawings	

C. Sheet Type Designator.

- Sheet type designators are listed below. Note that sheet type 7 has been reserved for Reflected Ceiling Plans. The remainder of the codes are as described in Reference A.

0	General
1	Plans
2	Elevations
3	Sections
4	Large Scale Views
5	Details
6	Schedules and Diagrams
7	Reflected Ceiling Plan
8	User defined
9	3D Representations

D. Sheet Sequence Numbers.

- Sheet numbers should be designated sequentially starting at "01" and continuing through "99".
- The following table contains examples of sheet numbers:

AE7.01	AE	Architectural Elements
	7	Reflected Ceiling Plan
	.01	Sheet 01
AE1.01	AE	Architectural Elements
	1	Plan
	.01	Sheet 01
EL4.06	EL	Electrical Lighting
	4	Large Scale View (Enlarged Plan)
	.06	Sheet 06
MP1.25	MP	Mechanical Piping
	1	Plan
	.25	Sheet 25

3. Full instructions on naming model and sheet files and sheet numbering can be found in Reference A.
3. Submittal Of Record Drawings.
 - A. The submittal of the final documents will consist of the following.
 1. Two sets of hard copies of completed Record (As-Built) Drawings.
 2. All drawings are to be presented on the preferred F Size (30" x 42"). Smaller sizes may be used where appropriate.
 3. E size paper format (36" x 48") is not acceptable and therefore is not to be used.
 4. E size paper format (36" x 48") is not acceptable and therefore is not to be used.
 5. Electronic copies of Record Drawings on CD-ROM, two copies of each CD-ROM are required. See paragraph 3.4 for digital format requirements.
4. Record Drawing Digital Format Requirements.
 - A. Electronic copies of Record Drawings are to adhere to the following requirements:
 1. Drawing files are to be saved to AutoCAD 2000 or later.
 2. Electronic files shall conform to the specifications listed in this document.
 3. All layering shall conform to Paragraph 1.3 of this document and to the AIA CAD Layer Guidelines contained in Reference A.
 4. Ideally, all drawings are to be presented for plotting on F Size (30" x 42") paper. Smaller sizes may be used where appropriate. E size paper format (36" x 48") is not to be used.
 5. Drawing scales are to be limited to those defined on page UDS-04.12 of Reference A, with the addition of '3/32" = 1'-0"' which is also acceptable.
 6. Any links to externally referenced drawings (Xrefs) shall be present in electronic drawings and a copy of each shall be submitted on the CD-ROMs in a Folder named "Xrefs".
 7. Contractor shall also provide list of Xrefs for drawings with a brief description of information contained in each reference file. This will ensure no information is lost during merging of files.
5. Revisions.
 - A. Submitted drawings shall contain a revision date and brief description of the revision on each revised sheet.
 - B. Revisions shall be clearly identified using a revision cloud and revision number. In addition, the cover sheet shall show the latest applicable revision date.

6. Refusal Of Documentation.
 - A. Drawings and Electronic Files that do not conform to the standards listed herein may be refused until they conform to standards.
7. Other.
 - A. This document and information herein are subject to change without notice.

Record drawing layer name major groups.

(Those Major Groups shown in italics are locally defined).

Group	Description	Group	Description
ABAN	<i>Abandoned in position</i>	DICT	Central Dictation System
ACCS	Access Plan	DOMW	Domestic Water Systems
ACID	Acid Waste Systems	DOOR	Doors
ACFF	Aqueous Film-Forming Foam System	DRIV	Driveways
AFLD	Airfields	DTCH	Ditches Or Washes
ALRM	Alarm	DUAL	Dual Temperature System
ANNO	Annotation	DUST	Dust And Fume Collection Systems
AREA	Area	ELEC	Electrical System
AUXL	Auxiliary	ELEV	Elevation
BEAM	Beams	ELHT	Electrical Heat
BELL	Bell Systems	EMCS	Energy Monitored Control System
BLDG	Building And Primary Structure	ENER	Energy Management Systems
BLIN	Baseline	EQPM	Equipment
BNDY	Political Boundary	EROS	Erosion And Sediment Control
BORE	Borings	ESMT	Easements
BRAC	Bracing	EVAC	Evacuation Plan
BRDG	Bridge	EXHS	Exhaust
BRIN	Brine Systems	FENC	Fences
BRKL	Break	FIRE	Fire Protection System, Fire Alarm, Fire Extinguishers
BZNA	Buffer Zone Area	FLHA	Flood Hazard Area
CABL	Cable Systems	FLOR	Floors
CASE	Casework	FNDN	Foundation
CATV	Cable TV	FNSH	Finishes
CCTV	Closed-Circuit TV	FUEL	Fuel Gas Systems
CEME	Cemetery	FUME	Fume Hoods
CHAN	Navigable Channels	FURN	Furnishings
CHIM	Chimneys And Stacks	GLAZ	Glazing
CLNG	Ceiling	GLYC	Glycol Systems
CLOCK	Clock System	GRID	Column Grid
CMPA	Compressed / Processed Air Systems	GRND	Ground System
CMPQ	Computer Equipment	GRSW	<i>Grease Waste</i>
CNDW	Condenser Water System	HALN	Halon Systems
CO2S	Co2 System	HOTW	Hot Water Heating Systems
CODE	Code Compliance Plan	HVAC	HVAC Systems
COLS	Columns	IGAS	Inert Gas
COMM	Communication	INDC	<i>Detail Elevation and Section Indicators</i>
CONT	Controls And Instrumentation	INST	Instrumentation System
CONV	Conveying Systems	INTC	Intercom System
CPLX	<i>Complex Plans</i>	IRRG	Irrigation
CTRL	Control Points / Systems	JNTS	Joints
CWTR	Chilled Water Systems	JOIS	Joists
DATA	Data Outlets	LEGN	Legend Of Symbols
DECK	Structural Deck	LGAS	Laboratory Gas Systems
DETL	Detail	LITE	Lighting
DFLD	Drain Fields	LOCN	Limits Of Construction
DIAG	Diagrams	LTNG	Lightning Protection System
		MACH	Machine Shop
		MAJQ	Major Equipment
		MINQ	Minor Equipment

Group	Description	Group	Description
MDGS	Medical Gas	SPCQ	Special Equipment
MILL	Millwork	SPRN	Sprinkler System
MKUP	Make-Up-Air Systems	SSWR	Sanitary Sewer System
MPIP	Miscellaneous Piping Systems	STEM	Steam System
NGAS	Natural Gas	STRM	Storm Drainage And Sewer System
NICN	Not In Contract Equipment	STRS	Stairs
NODE	Node	SURV	Survey
NURS	Nurse Call System	SWLK	Sidewalks
PAIR	Process Air System	<i>TABL</i>	<i>Table Games</i>
PCHM	Process Chemical System	TEST	Test Equipment
PDRN	Process Drains System	TINN	Triangulation Irregular Network
PERC	PERC Testing	TOPO	Topography
PEXH	Process Exhaust System	TRAL	Trails And Paths
PGAS	Process Gas System	TRUS	Trusses
PGNG	Paging System	TVAN	TV Antenna System
PHON	Phone System	UNID	Unidentified
PIPE	Pipe	<i>VWPT</i>	<i>Viewports</i>
PLAN	Key Plan Floor plan	WALL	Walls
PLNT	Plant And Landscape Material	WATR	Water Supply
PLQD	Process Liquid System	WETL	Wetlands
POIL	Process Oil System	<i>XREF</i>	<i>External References</i>
POND	Ponds		
POWR	Power		
PRKG	Parking Lots		
PROC	Process Systems		
PROP	Property Boundary		
PROT	Fire Protection System		
PRTN	Partitions		
PSLR	Process Slurry System		
PVAC	Process Vacuum System		
PVMT	Pavement		
PWTR	Process Water System		
RAIL	Railroad		
RAIR	Relief Air Systems		
RCOV	Energy Recovery Systems		
REFG	Refrigeration Systems		
RIVR	River		
ROAD	Roads, Streets And Highways		
ROOF	Roof		
RRAP	Riprap		
RWAY	Rights Of Way		
SANR	Sanitary Drainage Systems		
SECT	Sections		
SERT	Security		
SGHT	Sight Distance		
SITE	Site		
SLAB	Slab		
<i>SLOT</i>	<i>Slot Machine</i>		
SMOK	Smoke Extraction Systems		
SOIL	Soils		
SOUN	Sound / PA Systems		
SPCL	Special Systems		

The following list includes but is not limited to layer names allocated to gaming layers.

LayerName	Description
X-EQPM-ATM	Gaming: ATM Machines
X-EQPM-ATM-IDEN	Gaming: ATM Machines Identifiers
X-EQPM-BOTH	Gaming: Booths
X-EQPM-BOTH-IDEN	Gaming: Booth Identifiers
X-EQPM-COIN-LOCK	Gaming: Coin Lockers
X-EQPM-COIN-LOCK-IDEN	Gaming: Coin Locker Identifiers
X-EQPM-COIN-REDM	Gaming: Coin Redemption
X-EQPM-COIN-REDM-IDEN	Gaming: Coin Redemption Identifiers
X-EQPM-FIXD	Gaming: Equipment Fixed
X-EQPM-IDEN	Gaming: Equipment Identifiers
X-EQPM-TCKT	Gaming: Ticket Redemption
X-EQPM-TCKT-IDEN	Gaming: Ticket Redemption Identifiers
X-EQPM-WKSK	Gaming: Wampum Kiosks
X-EQPM-WKSK-IDEN	Gaming: Wampum Kiosk Identifiers
X-FURN	Gaming: Furnishings
X-FURN-CHAR	Gaming: Game Seats
X-FURN-IDEN	Gaming: Furnishings Identifiers
X-SLOT	Gaming: slot machines
X-SLOT-DOOR	Gaming: Slots Door
X-SLOT-HBOY	Gaming: Slots High Boy
X-SLOT-HBOY-IDEN	Gaming: Slots High Boy Identifiers
X-SLOT-SLTP	Gaming: Slots Slope Top
X-SLOT-SLTP-IDEN	Gaming: Slots slope Top Identifiers
X-SLOT-WDWK	Gaming: Slots Woodwork Millwork Cabinets
X-SLOT-ZONE	Gaming: Slots Zone
X-SLOT-ZONE-IDEN	Gaming: Slots zone Identifiers
X-TBLE	Gaming: Game Table
X-TBLE-3CDP	Gaming: Game Table
X-TBLE-ACDC	Gaming: Game Table Acey Deucy
X-TBLE-BACC	Gaming: Game Table Baccarat
X-TBLE-BJCK	Gaming: Game Table Black Jack
X-TBLE-CAWV	Gaming: Game Table Catch a Wave
X-TBLE-CBST	Gaming: Game Table Caribbean Stud
X-TBLE-CHLK	Gaming: Game Table Chuk Luk
X-TBLE-CRAP	Gaming: Game Table Craps
X-TBLE-CWAR	Gaming: Game Table Casino War
X-TBLE-DEAL	Gaming: People Dealers
X-TBLE-IDEN	Gaming: Game Table Identifiers
X-TBLE-LITR	Gaming: Game Table Let it Ride
X-TBLE-MIDI	Gaming: Game Table Midi Bac
X-TBLE-MINI	Gaming: Game Table Mini Bac
X-TBLE-MWHL	Gaming: Game Table Money Wheel
X-TBLE-PGPK	Gaming: Game Table Pai Gow Poker
X-TBLE-PGTL	Gaming: Game Table Pai Gow Tiles
X-TBLE-PITS-STND	Gaming: Pit People Standing
X-TBLE-PLYR	Gaming: People - Players
X-TBLE-POKR	Gaming: Game Table Poker
X-TBLE-ROUL	Gaming: Game Table Roulette
X-TBLE-SICB	Gaming: Game Table Sic Bo
X-TBLE-SP21	Gaming: Game Table Spanish 21
X-TBLE-WAR	Gaming: Game Table War